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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,671	09/23/2003	Neal R. Rueger	MI22-2145	5547
21567	7590	07/20/2005	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			KEBEDE, BROOK	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 07/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/669,671	RUEGER ET AL.	
	Examiner	Art Unit	
	Brook Kebede	2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 28-35 and 39-44 is/are pending in the application.
- 4a) Of the above claim(s) 25-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 39-44 is/are rejected.
- 7) ☐ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/23/03; 10/6/04; 4/4/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species I, i.e., Claims 1-7 and 39-44, in the reply filed on June 17, 2005 is acknowledged.
2. Claims 28-35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 17, 2005.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 39-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 39 recites the limitation "A method of providing an improved deposition rate uniformity comprising depositing a material over a surface in the presence of at least one gas selected from the group consisting of D₂, HD, DT, T₂ and TH, the depositing occurring at an overall deposition rate defined by a ratio of deposition of the material relative to a simultaneous rate of etch of the material, **the overall deposition rate having a degree of variance across the surface which is measurably improved relative to a corresponding degree of variance that occurs during deposition utilizing H₂ under otherwise substantially identical conditions**" in lines 1-8.

However, there is a lack of clarity for **“the overall deposition rate having a degree of variance across the surface which is measurably improved relative to a corresponding degree of variance that occurs during deposition utilizing H₂ under otherwise substantially identical conditions”** in its meaning and scope for the following reasons.

What does it mean by **“the overall deposition rate having a degree of variance across the surface which is measurably improved relative to a corresponding degree of variance that occurs during deposition utilizing H₂?”** Does it mean the correlation between the deposition of the film between under H₂ and D₂ taken from the graph? And also is not clear what the above limitation entails with respect to the process of depositing of an oxide layer in the presence of D₂ or T₂ gases.

Therefore, the claim is being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 40-44 also rejected as being dependent of the rejected independent base claim.

Accordingly, claims 39-44 have not been rejected over the prior art because, in light of the 35 U.S.C. 112 rejections supra, there is a great deal of confusion and uncertainty as to the proper interpretation of the limitations of the claims; hence, it would not be proper to reject the claims on the basis of prior art. As stated in *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), a rejection under 35 U.S.C. 103 should not be based on considerable speculation about the meaning of terms employed in a claim or assumptions that must be made as to the scope of the claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by anticipated Johnson et al. (US/6,614,977).

Re claim 1, Johnson et al. disclose method of depositing a layer over a substrate, comprising: providing a substrate (32) within a high density plasma reaction chamber (see Col. 4, lines 8-42); providing at least one compound having a heavy-hydrogen isotope substituent into the reaction chamber (see Col. 4, lines 18-25); generating a high density plasma within the reaction chamber; and chemical vapor depositing a layer over the substrate, the layer incorporating at least a portion of the at least one compound (see Col. 4, line 8 – Col. 12, line 19).

Re claim 2, as applied to claim 1 above, Johnson et al. disclose all the claimed limitations including the limitation wherein the heavy-hydrogen isotope is deuterium (see Col. 4, line 8 – Col. 12, line 19).

Re claim 3, as applied to claim 1 above, Johnson et al. disclose all the claimed limitations including the limitation wherein the at least one compound consisting SiCl_2D_2 (see Col. 4, line 8 – Col. 12, line 19).

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Re claim 4, as applied to claim 1 above, Johnson et al. disclose all the claimed limitations including the limitation wherein the layer comprises an oxide material (see Col. 4, line 8 – Col. 12, line 19).

Re claim 6, as applied to claim 1 above, Johnson et al. disclose all the claimed limitations including the limitation wherein the depositing produces a substantially planar surface (see Col. 4, line 8 – Col. 12, line 19).

Re claim 7, as applied to claim 1 above, Johnson et al. disclose all the claimed limitations including the limitation wherein the at least one compound is comprised by a mixture, the mixture further comprising at least one of O₂ and O₃ (see Col. 3, lines 29-50).

Allowable Subject Matter

7. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure Nakamura et al. (JP/10-200115) and Fujimura et al. (US/6,255,197) also disclose similar inventive subject matter.

Correspondence

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (571) 272-1862. The examiner can normally be reached on 8-5 Monday to Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brook Kebede
Examiner
Art Unit 2823

BK
July 18, 2005